Received: 5 September 2019 | Revised: 27 February 2020 | Accepted: 20 March 2020

DOI: 10.1111/cp.12218

ORIGINAL ARTICLE

Clinical Psychologist WILEY

Adult attachment, worry and reassurance seeking: Investigating the role of intolerance of uncertainty

Gavin I. Clark[1,2] | Adam J. Rock[2] | Laura H. Clark[3] | Kerrin Murray-Lyon[2]

[1]School of Psychology, Newcastle University, Newcastle upon Tyne, UK

[2]School of Psychology, University of New England, Armidale, Australia

[3]School of Psychology, Durham University, Durham, UK

Correspondence
Gavin I. Clark, School of Psychology, Newcastle University, Newcastle upon Tyne, NE1 7RU, UK.
Email: gavin.clark@newcastle.ac.uk

Abstract

Background: The adult attachment dimension of attachment anxiety has been demonstrated to be associated with a variety of anxiety symptomology, including worry, intolerance of uncertainty (IU) and reassurance seeking. A variety of research has indicated that IU is associated with level of worry and reassurance seeking. The relationships between attachment anxiety, worry, IU and threat-related reassurance seeking have not been subject to investigation. The present article reports the results of an investigation of these variables within a community sample.

Methods: Three-hundred and twenty-eight participants were recruited to complete an online survey in which participants completed the Intolerance of Uncertainty Scale, the Experiences in Close Relationships Scale-Revised, the Penn State Worry Questionnaire and the Threat-related Reassurance Seeking Scale.

Results: Attachment anxiety, IU and worry were correlated with threat-related reassurance seeking. Consistent with previous research, IU was found to mediate the relationship between attachment anxiety and worry. IU and worry were found to be serial-multiple mediators in the relationship between attachment anxiety and threat-related reassurance seeking.

Conclusions: The results of the study suggest IU is likely to play a key role in the relationship between attachment anxiety and worry, as well as the relationship between attachment anxiety and threat-related reassurance seeking.

KEYWORDS

adult attachment, attachment anxiety, intolerance of uncertainty, threat-related reassurance seeking, worry

1 | INTRODUCTION

Attachment theory is built on the premise that humans have an intrinsic drive to form and maintain interpersonal relationships and to utilise such relationships to seek support and regulate emotion in times of need or distress (Bowlby, 1988; Shaver & Mikulincer, 2014; Stuart & Robertson, 2012). Individual attachment style has been operationalised as reflecting the enduring pattern of relational expectations, emotion and behaviours

that result from the internalisation of an individual's history of relational experiences (Fraley & Shaver, 2000; Shaver & Mikulincer, 2014). Attachment orientation therefore reflects an individual's beliefs, and associated interpersonal behaviours, concerning their worthiness of obtaining interpersonal support, the reliability and availability of others in providing support in times of need, as well as the manner in which individuals perceive threat and view their capacity to regulate distress (Bartholomew & Horowitz, 1991; Mikulincer, Shaver, & Pereg, 2003; Shaver & Mikulincer, 2014). Individual attachment orientation has been conceptualised as varying according to individual differences on two orthogonal dimensions; attachment anxiety and attachment avoidance (Brennan, Clark, & Shaver, 1998).

An individual's position on the attachment anxiety dimension indicates the degree to which a person worries that others will be unavailable and unresponsive in times of need (e.g., Mikulincer et al., 2003). Individuals high on attachment anxiety have been suggested to hold a negative model of the self in terms of a perceived ability to cope with threat autonomously whilst holding a positive working model of others due to the support and protection they can provide (Fraley & Shaver, 2000; Vrtička & Vuilleumier, 2012). As a consequence they may be hypersensitive to signs of possible rejection or abandonment (Fraley & Shaver, 2000; Shaver & Mikulincer, 2014) and be likely to perceive signs of conflict and threat within relationships (Campbell, Simpson, Boldry, & Kashy, 2005). Theoretical conceptualisations of adult attachment (e.g., Mikulincer et al., 2003; Shaver & Mikulincer, 2014) suggest that attachment anxiety is associated with hyperactivation of the attachment system where individuals employ behaviours aimed at eliciting support and minimising threat, such as clinging or coercive behaviours or insistent reassurance seeking (Shaver & Mikulincer, 2014). In contrast, an individual's position on the avoidance dimension indicates the extent to which the individual distrusts others' capacity/willingness to help and, consequently, support seeking is viewed as futile or dangerous (Mikulincer et al., 2003; Vrtička & Vuilleumier, 2012). Individuals high in attachment avoidance, therefore, engage in efforts to maintain a safe degree of independence from others (Fraley & Shaver, 2000). Consequently, such individuals are characterised as employing "deactivating" attachment strategies, such as emotional suppression and avoiding intimacy in close relationships (Mikulincer et al., 2003; Shaver & Mikulincer, 2014).

Attachment insecurity, as reflected by heightened attachment anxiety and/or attachment avoidance, is considered a risk factor in the aetiology of psychopathology including anxiety symptomology (Mikulincer & Shaver, 2012; Nielsen et al., 2017). A variety of research supports this contention; attachment orientation has been demonstrated to be associated with general and diagnosis-specific measures of anxiety symptoms (e.g., Eng, Heimberg, Hart, Schneier, & Liebowitz, 2001; Nielsen et al., 2017), including level of worry (Simonelli, Ray, & Pincus, 2004). Interpersonal difficulties are commonly reported in relation to both attachment dimensions (e.g., Wei et al., 2005) and have been argued to serve as common triggers for worry and anxiety (Dugas & Robichaud, 2007). Worry reflects a "cognitive phenomenon concerned with future events where there is uncertainty about the outcome, the future being thought about is a negative one, and this is accompanied by feelings of anxiety" (Macleod, Williams, & Bekerian, 1991, p. 478). Attachment anxiety and attachment avoidance have been demonstrated to display positive associations with worry (Wright, Clark, Rock, & Coventry, 2017). The premise that attachment insecurity leads individuals to experience concerns regarding negative future outcomes (e.g., aversive relationship outcomes, inability to deal with distress) suggests that insecure attachment orientations (i.e., elevated attachment anxiety and/or attachment avoidance) would predispose individuals to heightened worry (Simonelli et al., 2004). Indeed, poor childhood attachment experiences have been demonstrated to be associated with an increased risk of Generalised Anxiety Disorder (GAD) (Cassidy, Lichtenstein-Phelps, Sibrava, Thomas, & Borkovec, 2009), a disorder characterised by chronic levels of worry (American Psychiatric Association, 2013).

A construct widely linked with GAD and worry is intolerance of uncertainty (IU; Buhr & Dugas, 2009). IU is conceptualised as a cognitive bias that affects how one perceives, interprets and responds to uncertainties

Key Points

1. Attachment insecurity and intolerance of uncertainty (IU) have each been argued to contribute to the level of worry and engagement in reassurance seeking behaviour.
2. The results of this study suggest that IU mediates the relationship between attachment anxiety and worry, whilst IU and worry are serial mediators in the relationship between attachment anxiety and threat-related reassurance seeking.
3. The results are consistent with the proposal that heightened attachment anxiety may predispose individuals to higher levels of IU and that each may contribute to the experience of worry and engagement in reassurance seeking behaviour.

(Dugas, Freeston, & Ladouceur, 1997). An individual's level of IU reflects the degree to which they hold negative beliefs about uncertainty and their capacity to cope with the distress associated with uncertainty (Buhr & Dugas, 2002). A number of research studies have demonstrated that IU is positively associated with worry and that this relationship is independent of each variable's relationship with anxiety and depression (e.g., Bhur & Dugas, 2006). Research suggests that fluctuations in IU may contribute to fluctuations in the level of worry (Buhr & Dugas, 2009) and IU has been argued to play a causal role in GAD symptomology (Dugas & Robichaud, 2007). In line with this conceptualisation, IU is a primary target of leading psychological interventions for chronic worry, such as Dugas and colleagues' treatment of GAD (Dugas & Robichaud, 2007).

Attachment anxiety has been suggested to predispose individuals to IU, which in turn would predispose individuals to higher levels of worry (Wright et al., 2017). Indeed, it has been suggested that insecurely attached individuals will appraise ambiguity/uncertainty within interpersonal relationships as indicating threat, leading to negative recurrent thoughts concerning such negative outcomes (Campbell et al., 2005; Collins et al., 1996; Wright et al., 2017). Furthermore, the hyperactivating strategies which characterise individuals with high attachment anxiety may be conceptualised as reflecting efforts to minimise uncertainty concerning potential threats within relationships (Wright et al., 2017).

Wright et al. (2017) reported that, in an adult community sample, attachment anxiety and attachment avoidance were associated with IU and, furthermore, that IU mediated the relationship between each attachment dimension and worry. However, after controlling for the shared variance between each attachment dimension, IU was found to mediate the relationship between attachment anxiety and worry but the relationship between attachment avoidance, IU and worry was no longer significant. The authors interpreted these results as indicating that attachment anxiety may not act directly on level of worry, but indirectly through its impact upon IU and that the relationship between attachment avoidance and worry, including the direct relationship and the indirect pathway via worry, is a function of the shared variance between attachment avoidance and attachment anxiety. Wright and colleagues suggested that these results are consistent with the proposal that early experiences influence individual attachment orientation, which leads to the internalisation of beliefs regarding the availability of others and beliefs regarding one's ability to manage distress.

As noted above, greater levels of attachment anxiety are believed to lead to hyperactivation of the attachment system and to individuals employing hyperactivating behaviours designed to alleviate threat and obtain attachment support (Shaver & Mikulincer, 2014). A strategy which has been conceptualised as a hyperactivating behaviour, and which may be hypothesised to be potentiated by heightened attachment anxiety, IU and worry is reassurance seeking (Shaver, Schachner, & Mikulincer, 2005).

Reassurance seeking has been identified as a strategy employed with the aim of minimising worry and uncertainty (e.g., Dugas & Robichaud, 2007) and a method of reducing and/or coping with perceived threat (Cougle et al., 2012). Reassurance seeking has been linked with a variety of anxiety-related difficulties (e.g., Cougle et al., 2012), including GAD (Beesdo-Baum et al., 2012; Woody & Rachman, 1994). Cougle and colleagues distinguished two forms of excessive reassurance seeking pertinent to anxiety pathology: (a) general threat-related reassurance seeking (carried out to receive assurance that feared outcomes generally will not occur); and (b) evaluative threat-related reassurance seeking (employed to receive assurance that others do not think negatively about them). In a series of studies carried out with adult undergraduate students, Cougle and colleagues reported that both forms of reassurance seeking were positively associated with worry and IU.

Although hyperactivation of the attachment system has been linked with the employment of reassurance seeking strategies, and reassurance seeking may reflect an aspect of attachment anxiety (Shaver et al., 2005), it has been argued that adult attachment and reassurance seeking behaviour reflect distinct constructs (Davila, 2001). Research suggests that attachment orientation is associated with reassurance seeking behaviour (e.g., Shaver et al., 2005; Wearden, Perryman, & Ward, 2006). Shaver et al. (2005) found that attachment anxiety was positively correlated with excessive reassurance seeking but attachment avoidance was not, which is consistent with the conceptualisation of reassurance seeking as a hyperactivating attachment behaviour. Reassurance seeking has been suggested to be more likely to occur when an individual high in attachment anxiety feels vulnerable to rejection or abandonment (Shaver et al., 2005). Notably, the aforementioned research studies have evaluated reassurance seeking using measures which assess the frequency and impact of individuals seeking assurances regarding their relationship and whether they are loveable/worthy (e.g., Joiner, Metalsky, Katz, & Beach, 1999). Such research has, therefore, not evaluated the association between attachment dimensions and the tendency to seek reassurance in response to general and evaluative threat.

To date, the relationship between attachment, IU and reassurance seeking has received no investigation. Based

on the findings described above, it would be reasonable to hypothesise that IU would mediate the relationship between attachment anxiety and worry and between attachment anxiety and reassurance seeking. The rationale for this hypothesis is as follows: individual attachment anxiety reflects the degree to which individuals possess beliefs regarding the likelihood of being rejected/abandoned within relationships and an inability to cope with abandonment and distress (Mikulincer et al., 2003) as well as a tendency to interpret ambiguous stimuli as threatening (Collins et al., 1996). Consequently, it would be expected that attachment anxiety predisposes individuals to perceive uncertainty as dangerous and affects the degree to which individuals doubt their capacity to manage uncertainty. This, in turn, would determine the degree to which individuals feel the need to seek reassurance and engage in attempts to minimise uncertainty in response to threat. In addition to this mediation, it must be noted that IU has been found to mediate the relationship between attachment anxiety and worry (Wright et al., 2017) and worry has been suggested to lead to engagement in reassurance seeking behaviour (e.g., Beesdo-Baum et al., 2012). This raises the possibility that worry itself may mediate the relationship between attachment anxiety and reassurance seeking. A serial mediation model was formulated representing the proposed relationships described above. The model outlines a hypothetical causal chain wherein level of attachment anxiety would promote fluctuations in IU, which in turn would promote fluctuations in worry and, ultimately, each of these variables would impact upon the total level of threat-related reassurance seeking. The present study aimed to evaluate these relationships in a community sample reflecting a heterogeneous level of worry. The following hypotheses were specified:

1. The relationship between attachment anxiety and worry would be mediated by IU (replicating the results of Wright et al., 2017).
2. IU and worry would be serial-multiple mediators in the relationship between attachment anxiety and threat-related reassurance seeking.

2 | MATERIALS AND METHOD

2.1 | Participants

Participants were recruited within Australia to complete a battery of questionnaires via an online survey. In order to participate, participants were required to be over the age of 18 years and fluent in written English. No further exclusion criteria were specified. Three-hundred and fifty-two participants commenced the study and 328 filled out the survey to completion. The responses of 24 participants included some missing values (< 5%) and these missing values were imputed through Expectation Maximisation (e.g., Graham, 2003) using SPSS 25. The majority of the final sample identified as female ($n = 244$, 74.4%) with 25% identifying as male and 0.6% identifying as "other." Participants were aged from 18 to 65 years ($M = 35.42$, $SD = 10.56$). The majority of participants were educated to community college (22%), undergraduate (46%) or postgraduate degree level (17%).

Participant distress was assessed using the *Depression, Anxiety, and Stress Scales-21* (DASS-21; Lovibond & Lovibond, 1995), described below. In terms of anxiety symptoms, as measured by the DASS-21, 66% of the sample scored in the "Normal" range of severity of anxiety symptoms, with 27% recording scores in the "Mild" severity of anxiety symptoms or above, 24% displaying "Moderate" severity of anxiety symptoms or above and 14% reporting "Severe" or "Extremely Severe" anxiety symptoms. Fifteen percent of the sample scored above the DASS total distress score cut-off of 60 which indicates severe distress (Lovibond & Lovibond, 1995). Severity of participant worry was measured utilising the *Penn State Worry Questionnaire* (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990). Behar and colleagues (2003) suggested that a PSWQ score of 45 could discriminate individuals with GAD from individuals who do not experience pathological levels of worry. Thirty-five percent of the sample scored below this cut-off, whilst 65% scored above this cut-off. Sixty-one participants (19% of sample) scored above a more conservative clinical cut-off score of 65 specified by Meyer et al. (1990). The representation of clinical levels of worry, in combination with the range of PSWQ scores (16–80) and mean ($M = 50.93$, $SD = 14.48$) of PSWQ scores, may be seen to infer that the present sample reflected a range of worry including a number of individuals who experienced worry consistent with individuals from clinical samples.

2.2 | Materials

The *Experiences in Close Relationships-Revised* (ECR-R; Fraley, Waller, & Brennan, 2000) was used to measure attachment anxiety and attachment avoidance. The ECR-R requires respondents to indicate their agreement with statements regarding individual experiences within relationships across 36 items, with 18 items corresponding to each attachment dimension. An average score is calculated for each dimension, with higher scores indicating higher levels of attachment-related difficulties. The ECR-R has good test–retest reliability and good internal consistency (Wei,

Russell, Mallinckrodt, & Vogel, 2007). Cronbach's alpha for the ECR-R was .94 for attachment anxiety and .95 for attachment avoidance in the current study.

The *Intolerance of Uncertainty Scale* (IUS; Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994) was utilised to assess level of participant IU. The IUS requires respondents to rate their agreement with 27 statements concerning uncertainty on a five-point Likert scale in order to calculate a total score (ranging from 27 to 135) indicating degree of IU. The scale has been shown to have good test–retest reliability and excellent internal consistency (Buhr & Dugas, 2002) and this was reflected in the internal consistency calculated in the present study ($\alpha = .96$).

The *Threat-related Reassurance Seeking Scale* (TRSS; Cougle et al., 2012) is an eight item measure that assesses threat-related reassurance seeking behaviour across two factors; evaluative threat-related reassurance seeking behaviour (TRSS-E; four items) and general threat-related reassurance seeking behaviour (TRSS-G; four items). A total score is also derived which provides a global measure of threat-related reassurance seeking and this served as the primary outcome variable in the study. Respondents are required to answer questions regarding whether they seek reassurance on a scale of 1 (No, not at all) to 7 (Yes, very much). The scale has been demonstrated to have good test–retest reliability and excellent internal consistency for total score and TRSS-G and good consistency for the TRSS-E scale. In the present study, the Cronbach's alpha was .95 for TRSS total score, .91 for TRSS-G and .94 for TRSS-E.

The *PSWQ* (Meyer et al., 1990) was used to assess worry. The PSWQ consists of 16 items and requires participants to rate their agreement with statements concerning the experience of worry on a 5-point Likert scale. A total score is calculated to indicate severity of worry. The PSWQ has previously been demonstrated to have good test–retest reliability and high internal consistency (Meyer et al., 1990). Cronbach's alpha for the PSWQ was .95 in the present study.

The *DASS-21* (Lovibond & Lovibond, 1995) is comprised of 21 items which provide an overall measure of psychological distress, with subscales quantifying depression, anxiety and stress symptoms over the past week, with higher scores indicating more severe symptomology. The present study evaluated participant psychological distress, as well as responses on the stress and anxiety subscales, in order to provide additional participant characteristics and to potentially control for the influence of psychological distress within the mediation analyses. Previous research has indicated the DASS-21 total score and subscales have good reliability (Henry & Crawford, 2005; Lovibond, & Lovibond, 1995). The DASS-21 total score ($\alpha = .95$), anxiety subscale ($\alpha = .87$) and stress subscale ($\alpha = .90$) demonstrated good-to-excellent reliability in the present study.

2.3 | Procedure

The study was approved by the University of New England Human Research Ethics Committee.

TABLE 1 Intercorrelations, means and standard deviations ($N = 328$)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Attachment anxiety	—									
2. Attachment avoidance	.45***	—								
3. IU	.49***	.29***	—							
4. Worry	.43***	.20***	.69***	—						
5. Threat-related reassurance seeking (TRSS)	.40***	.08	.48***	.54***	—					
6. General-TRSS	.36***	.06	.49***	.52***	.95***	—				
7. Evaluative-TRSS	.39***	.09	.43***	.51***	.96***	.82***	—			
8. Anxiety	.32***	.21***	.52***	.49***	.39***	.38***	.37***	—		
9. Stress	.33***	.20***	.55***	.65***	.38***	.37***	.37***	.75***	—	
10. Distress (DASS-21 total score)	.38***	.24***	.58***	.58***	.37***	.34***	36***	.89***	.91***	—
M	3.11	2.90	65.47	50.93	24.40	12.41	11.99	7.07	14.05	30.40
SD	1.27	1.18	20.18	14.48	12.76	6.55	6.82	8.44	10.00	24.90

***$p < .001$.

Participants were recruited by distributing study participation invitations via social media (Facebook) and through placing the study invite on an undergraduate psychology online learning platform, where students could participate in return for course credit. The study invite contained a link to the online survey, hosted by Qualtrics research software (Qualtrics, Provo, UT), which was composed of the study information sheet, online informed consent to participate agreement, demographic questions and the measures described above.

3 | RESULTS

Intercorrelations, means and standard deviations among the study variables can be seen in Table 1. Attachment anxiety was found to be associated with IU $r(326) = 0.49$, $p < .001$; worry $r(326) = 0.43$, $p < .001$; general threat-related reassurance seeking $r(326) = 0.36$, $p < .001$; evaluative threat-related reassurance seeking $r(326) = 0.39$, $p < .001$ and total threat-related reassurance seeking $r(326) = 0.40$, $p < .001$.

The mediation effect of IU on the relationship between attachment anxiety and worry was assessed using Hayes' PROCESS macro, model four employing 5,000 bootstrap samples (Hayes, 2018). Mahalanobis distance scores identified one multivariate outlier within the data. Mediation analyses were conducted both with and without this outlier included. The inclusion of the outlier was determined not to influence the interpretation of results and, therefore, consistent with recommendations (e.g., Field, 2018) this outlier was retained within the final analysis.

The mediation model was significant, with a significant total model effect being observed ($b = 4.96$, 95% CI [3.84, 6.08], $\beta = .43$, $p < .001$). The indirect effect of attachment anxiety on worry via IU was significant ($b = 3.45$, 95% CI [2.68, 4.28], $\beta = .30$), whilst the direct effect of attachment anxiety on worry was also significant, $b = 1.51$, 95% CI [.48, 2.53], $\beta = .13$, $p = .004$. The standardised direct effect ($\beta = .13$) reflected 30% of the standardised total effect ($\beta = .43$), whilst the standardised indirect effect ($\beta = .30$) reflected 70% of the standardised total effect.

The hypothesised serial mediation effect of IU and worry on the relationship between attachment anxiety and total threat-related reassurance seeking was assessed using Hayes' PROCESS macro, model six employing 5,000 bootstrap samples (Hayes, 2018). The total effect of the mediation model was significant ($b = 3.98$, 95% CI [2.97, 4.99], $\beta = .40$, $p < .001$). The direct effect of attachment anxiety on reassurance seeking was significant, $b = 1.66$, 95% CI [.62, 2.70], $\beta = .16$, $p = .002$. The indirect effect from attachment anxiety to reassurance seeking via IU was significant ($b = .73$, 95% CI [.09, 1.45], $\beta = .07$), as was the indirect effect via worry ($b = .48$, 95% CI [.12, .94], $\beta = .05$). Furthermore, the indirect serial mediation effect from attachment anxiety to reassurance seeking via IU and worry was significant ($b = 1.11$, 95% CI [.68, 1.60], $\beta = .11$). The overall indirect effect was significant ($b = 2.32$, 95% CI [1.63, 3.11], $\beta = .23$), with the total standardised indirect effect accounting for 58% of the standardised total effect of attachment anxiety on reassurance seeking. Unstandardised coefficients and significance of individual pathways can be seen in Figure 1.

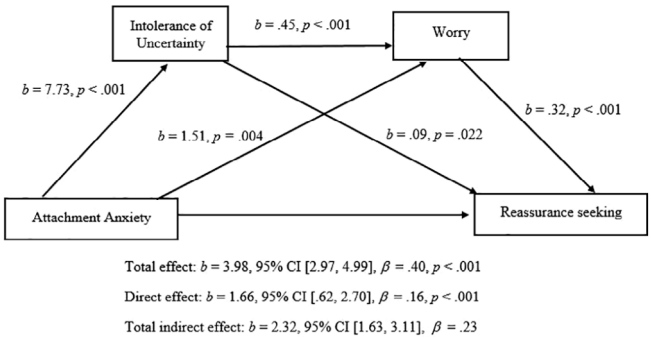

FIGURE 1 Mediation model assessed using Hayes' process model six (2018) evaluating IU and worry as mediators of the relationship between attachment anxiety and reassurance seeking. Significant pathways are denoted by solid arrowed lines. Non-significant pathways are denoted by dotted arrowed lines. b = unstandardised regression coefficient, β = completely standardised regression coefficient of the indirect effect, CI = bias-corrected and bootstrapped confidence intervals based on 5,000 samples

Whilst it might be expected that all variables assessed in the mediation model may give rise to psychological distress, we identified a possible interpretation of the mediation model whereby the relationships between the variables may be seen to be a function of a core pathology of psychological distress and anxiety symptomology in particular. A *post hoc* analysis was, therefore, conducted wherein the mediation model was re-run with DASS-21 total score (psychological distress) added as a covariate. We also note that, whilst attachment avoidance was not found to be associated with reassurance seeking (see Table 1), a number of researchers have recommended that it may be important to statistically control for the correlation between attachment anxiety and avoidance when evaluating attachment using self-report questionnaire (e.g., Cameron, Finnegan, & Morry, 2012). Given that the influence of shared variance between attachment dimensions on the relationship between attachment anxiety and reassurance seeking has, to date, not been evaluated, attachment avoidance was also added as a covariate within the *post hoc analysis*.

The total mediation model effect, whilst controlling for psychological distress and attachment avoidance was significant (b = 3.61, 95% CI [2.48, 4.75], β = .36, $p < .001$). The direct effect of attachment anxiety on reassurance seeking was significant, b = 2.22, 95% CI [1.10, 3.33], β = .22, $p < .001$. The indirect effect from attachment anxiety to reassurance seeking via IU was, again, significant, b = .47, 95% CI [.09, .95], β = .05. The indirect effect from attachment anxiety to reassurance seeking via worry was, again, significant (b = .43, 95% CI [.08, .90], β = .04), as was the indirect serial mediation effect from attachment anxiety to reassurance seeking via IU and worry, b = .49, 95% CI [.26, .80], β = .05. The total indirect effect was significant (b = 1.40, 95% CI [.85, 2.06], β = .14). The standardised indirect effect accounted for 39% of the total standardised effect (β = .36). Therefore, when controlling for psychological distress and attachment avoidance, the same mediation effect was demonstrated with a slight reduction in the proportion of variance accounted for by the indirect pathways as compared to the direct effect.

4 | DISCUSSION

The present study aimed to evaluate the relationship between attachment anxiety, IU, worry and threat-related reassurance seeking. The results are consistent with previous research demonstrating associations between attachment anxiety and worry (e.g., Simonelli et al., 2004) and IU (Wright et al., 2017). The current study replicated the findings of Wright et al. (2017) by demonstrating that IU mediated the relationship between attachment anxiety and worry but, in contrast to the findings of Wright et al., found the direct effect of attachment anxiety on worry to also be significant. We note that the standardised effect of the indirect pathway via IU in the present study was greater than that reported by Wright et al. (β = .30 vs. β = .19) and, consequently, the findings of the present study support the interpretation that attachment anxiety may indirectly act on level of worry through its impact upon IU. The finding that the direct pathway between attachment anxiety and worry was also significant may be accounted for by the fact that PSWQ scores in the present study's sample (M = 50.93, SD = 14.48), when compared to that of Wright et al. (M = 46.60, SD = 9.04), were significantly greater, $t(607) = 4.34$, $p < .001$. The present study may, therefore, have obtained a greater representation of individuals with high levels of worry, thus, allowing for the detection of this significant association even after accounting for the indirect effect.

As expected total, general and evaluative threat-related reassurance seeking were positively associated with attachment anxiety, worry and IU. This finding can be seen to be consistent with the notion that reassurance seeking may reflect a hyperactivating attachment behaviour (Shaver et al., 2005) and is a notable finding in that it demonstrates that attachment anxiety is associated with the global use of threat-related reassurance seeking (i.e., regarding any form of perceived threat) where previous research on attachment and reassurance seeking has typically focused on the use of reassurance seeking concerning attachment-related concerns (i.e., checking whether someone is loveable/worthy; Joiner et al., 1999). IU and worry were found to partially mediate the relationship between attachment anxiety and reassurance seeking. Furthermore, the serial mediation pathway, which evaluated a hypothetical causal chain whereby level of attachment anxiety would promote fluctuations in IU, which in turn would promote fluctuations in worry and ultimately level of reassurance seeking, was found to be significant. The serial mediation pathway remained significant when controlling for individual level of anxiety and stress. In an analysis omitted from the current article for brevity, equivalent serial mediation effects of IU and worry were observed when evaluating the relationship between attachment anxiety and the specific forms of threat-related reassurance seeking, separately. When evaluating general and evaluative threat-related reassurance seeking, respectively, as dependent variables in the mediation, all mediation pathways displayed the same patterns of significance as that observed when evaluating total threat-related reassurance seeking, with the only exception being that the indirect pathway from attachment anxiety via IU to evaluative threat-related reassurance seeking (attachment anxiety→IU→Evaluative-TRSS) was not significant.

These findings are of significant importance as this reflects the first study to evaluate the mediating effect of IU and worry on the relationship between attachment anxiety and threat-related reassurance seeking. The fact that the present study was cross-sectional rather than longitudinal or experimental means that the results can in no way be argued to demonstrate these hypothesised causal relationships and the results of the mediation analysis can only be seen as a provisional step in the evaluation of this theoretical mechanism (e.g., Hayes, 2018). Nevertheless, the results were consistent with this proposed theoretical mechanism. A priority of future research will, therefore, be to test the validity of the mediation model further in longitudinal and experimental research.

A number of accounts of IU have described that, when faced with uncertainty, individuals high in IU will employ a number of strategies to reduce the distress associated with uncertainty and increase the subjective sense

of certainty, that is, uncertainty reducing behaviours (e.g., Bottesi Tesini, Cerea, & Ghisi, 2018; Carleton et al., 2012). Excessive reassurance seeking, similar to excessive information gathering, can be conceptualised as a strategy which aims to minimise uncertainty. Uncertainty reducing behaviours have been argued to perpetuate IU, worry and anxiety (e.g., McEvoy & Erceg-Hurn, 2016). The results may, therefore, suggest that heightened attachment anxiety leads to greater levels of IU and worry which, in turn, drive efforts to reduce uncertainty through strategies such as reassurance seeking (which, consequently, would prevent individuals developing tolerance to uncertainty). Excessive reassurance seeking has also been conceptualised as a safety-seeking behaviour/safety behaviour; a perspective outlined by the authors of the TRSS (e.g., Cougle et al., 2012). Safety behaviours have broadly been defined as actions performed with the intention of avoiding, attenuating and/or coping with perceived threat and which serve to contribute to the maintenance of psychological disorder through preventing disconfirmation of feared outcomes (e.g., Cougle et al., 2012; Salkovskis, Clark, & Gelder, 1996). The results of the present study may also be understood in line with this conceptualisation. Heightened attachment anxiety, directly and indirectly, may lead to greater use of reassurance seeking. In turn, reassurance seeking may actively serve to prevent the disconfirmation of dysfunctional attachment-related fears commonly reported in attachment anxiety (e.g., perceived inability to cope with distress or without a significant other) or contribute to bringing about feared outcomes, that is, reassurance seeking may negatively impact upon relationships (e.g., Joiner, et al., 1999) creating disharmony or relationship termination, thus, confirming attachment-related fears of rejections/abandonment (e.g., Shaver et al., 2005). Irrespective of whether reassurance seeking, in relation to attachment anxiety, is best conceptualised as an uncertainty reduction strategy, a safety behaviour or a strategy which reflects both constructs, the results of the present study are consistent with the proposal that reassurance seeking is related to, and maintained by, an individual's level of attachment anxiety, IU and worry.

Psychological interventions for chronic worry, such as Dugas and colleagues' treatment of GAD, emphasise the need for clinicians to conceptualise and ameliorate IU through exposure/behavioural experiments (Dugas & Robichaud, 2007). For individuals high in attachment anxiety it may be important to ensure that such interventions target manifestations of IU (and uncertainty minimising behaviours) within, and concerning, interpersonal relationships in order to reduce problematic worry and reassurance seeking. It remains to be determined whether the efficacy of existing evidence-based psychological interventions for difficulties such as GAD is enhanced by assessing and addressing attachment-related difficulties. The results of the present study suggest this finding would be important to explore in future research. More broadly, the results of the present study may have some implications for transdiagnostic theories regarding the development of a variety of psychopathology. A growing body of evidence has led researchers to suggest that IU reflects a vulnerability factor across psychological disorders (e.g., Bottesi et al., 2017, 2018; McEvoy & Erceg-Hurn, 2016). A number of researchers have proposed that one of the primary ways in which IU functions as a shared vulnerability factor across disorders is through IU driving a variety of dysfunctional emotion regulation strategies employed to attenuate distress associated with uncertainty, which directly contribute to the aetiology and maintenance of psychological disorders (e.g., Birrell et al., 2011; Bottesi et al., 2018). The disposition towards feeling unable to endure the distress associated with uncertainty, and associated dysfunctional strategies, has been argued to be involved in the development and presentation of a variety of disorders, including GAD, obsessive compulsive disorder, social anxiety disorder, borderline personality disorder and depression and IU has been demonstrated to be associated with symptoms of each of these disorders (e.g., Boelen & Reijntjes, 2009; Bottesi et al., 2018; Gentes & Ruscio, 2011).

The potential transdiagnostic role of IU in the aetiology of psychological disorders may be seen to be equivalent to a number of aspects of attachment theory. Attachment insecurity has also been argued to reflect a non-diagnosis-specific risk factor for a variety of psychopathology and research has demonstrated that each of the disorders listed above, which have been linked with IU, are also associated with attachment insecurity (e.g., Eng et al., 2001; Levy, Meehan, Weber, Reynoso, & Clarkin, 2005; Malik, Wells, & Wittkowski, 2015). Insecure attachment orientations have also been argued to impact upon a variety of anxiety symptomology and threat perception (e.g., Nielsen et al., 2017). Additionally, one of the primary ways in which attachment orientation is argued to impact upon psychopathology is through shaping the use of maladaptive intraspsychic and interpersonal emotion regulation strategies which, in turn, have been argued to contribute to a variety of psychological disorders (Shaver & Mikulincer, 2014).

In the only longitudinal examination of attachment and IU of which we are aware, Zdebik, Moss, and Bureau (2018) reported the results of a study in which childhood attachment security was assessed in 60 children at age six, with IU measured after a 15-year period. The study found that insecure attachment orientations at age

six (specifically ambivalent and disorganised controlling type) predicated greater IU in adulthood relative to secure attachment, even after controlling for variables such as maternal anxiety. These findings, along with the results of the present study and Wright et al. (2017), provide provisional evidence that individual attachment orientation may directly contribute to individual level of IU. Given that research and theory in the two content areas of IU and attachment orientation have separately outlined the potential importance of these constructs as vulnerability factors across psychopathology, the results of Zdebik et al., Wright et al. and the present study provide a rationale for future research to explore both attachment and IU, in combination, across disorders and symptoms of psychological distress. Such research should aim to explore the extent to which IU and attachment orientation may uniquely contribute to the various symptoms to which they have been linked, whether mediation relationships similar to those assessed in the present study may be pertinent, or whether attachment insecurity and IU may interact in contributing to the formation and maintenance of distress and use of maladaptive emotion regulation strategies over time.

A number of cautions must be noted when interpreting the results of the present study. Similar to the study conducted by Wright et al. (2017), the present study evaluated a non-clinical community sample (which included individuals with levels of worry equivalent to those reported in clinical samples) and it remains to be determined whether the results would be replicated in a clinical sample of chronic worriers. The study did not assess or control for a variety of potentially pertinent participant demographic information, particularly in terms of whether participants had a history of psychological difficulties or had sought formal psychological intervention. The present study's sample is also subject to potential selection bias, being an online sample and having an over-representation of females relative to males.

Some researchers have suggested that threat-related reassurance seeking may play a causal role in the level of worry (Cougle et al., 2012). We also note that the relationship between threat-related reassurance seeking and worry may be bi-directional (i.e., worry may lead to reassurance seeking which, in turn, perpetuates/exacerbates level of worry). Consequently, it may be useful for future research to employ a cross-lagged effects model to evaluate this potential bidirectional effect (see, e.g., Erhart, Mahlendorf, Reimer, & Schäffer, 2017). More specifically, future studies could assess whether threat-related reassurance seeking quantified at t1 has an effect on worry quantified at t2 and whether worry quantified at t1 has an effect on threat-related reassurance seeking quantified at t2. Findings in support of the two previously stated effects would be indicative of a bi-directional effect.

A possible limitation which should also be considered is that the 27-item version of the IUS, utilised in the present study, has been suggested to be oriented towards the questioning of GAD-specific manifestations of IU (Gentes & Ruscio, 2011). The present study assessed worry which, despite being a core diagnostic feature of GAD, is considered to be a transdiagnostic phenomenon (e.g., McEvoy, Watson, Watkins, & Nathan, 2013). Given that the present study was concerned with the non-diagnosis-specific constructs of adult attachment and reassurance seeking, it could be argued that it may have been more prudent for the present study to utilise an alternative IU measure such as the IUS-12 (an abbreviated version of the IUS; Carleton, Norton, & Asmundson, 2007) or the IU Inventory (IUI; Gosselin et al., 2008), as these measures have been suggested to reflect more transdiagnostic measures of IU (Gentes & Ruscio, 2011; Gosselin et al., 2008; McEvoy, Hyett, Shihata, Price, & Strachan, 2019). However, we note that a recent meta-analysis suggested that choice of IU measure does not substantially impact upon the strength of associations between IU and anxiety symptoms across studies (McEvoy et al., 2019). Consequently, the selection of alternative IU measures may not have made any notable difference to the results of the present study. Nevertheless, extensions of this research should consider using an alternative IU measure such as the IUS-12 or IUI.

The present study sought to evaluate the relationship between attachment and global measures of reassurance seeking, worry and IU, that is, using measures which did not specifically evaluate manifestations within, and concerning, interpersonal relationships. As noted by Wright et al. (2017), it would be helpful for future research to determine whether measures which were specifically targeted to IU, worry and reassurance seeking focused on specific relational concerns displayed the same results as these global measures. Finally, the ECR-R has been suggested to primarily assess romantic attachment (Wei et al., 2007). Future research should explore whether individual attachment orientation as measured across other attachment relationships (e.g., maternal, paternal) produces equivalent results to those in the present study. A significant body of research is clearly needed to fully understand the relationships between the variables evaluated in the present study.

4.1 | Conclusions

The results of the present study add to the growing body of evidence suggesting that adult attachment orientation may play an important role in contributing to anxiety

symptomology. The findings provide further evidence that attachment anxiety may predispose individuals to higher levels of IU and that IU mediates the relationship between attachment anxiety and worry. The study provides the first evidence that attachment anxiety predicts threat-related reassurance seeking and that IU and worry may be important serial-multiple mediators in the relationship between attachment anxiety and threat-related reassurance seeking.

CONFLICT OF INTEREST

None.

ORCID

Gavin I. Clark https://orcid.org/0000-0002-9823-0028
Adam J. Rock https://orcid.org/0000-0002-1430-3745
Kerrin Murray-Lyon https://orcid.org/0000-0001-8118-0901

REFERENCES

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, *61*, 226–244. https://doi.org/10.1037/0022-3514.61.2.226

Beesdo-Baum, K., Jenjahn, E., Höfler, M., Lueken, U., Becker, E. S., & Hoyer, J. (2012). Avoidance, safety behavior, and reassurance seeking in generalized anxiety disorder. *Depression and Anxiety*, *29*(11), 948–957. https://doi.org/10.1002/da.21955

Birrell, J., Meares, K., Wilkinson, A., & Freeston, M. (2011). Toward a definition of intolerance of uncertainty: A review of factor analytical studies of the Intolerance of Uncertainty Scale. *Clinical Psychology Review*, *31*(7), 1198–1208. https://doi.org/10.1016/j.cpr.2011.07.009

Boelen, P. A., & Reijntjes, A. (2009). Intolerance of uncertainty and social anxiety. *Journal of Anxiety Disorders*, *23*(1), 130–135. https://doi.org/10.1016/j.psychres.2017.02.046

Bottesi, G., Ghisi, M., Sica, C., & Freeston, M. H. (2017). Intolerance of uncertainty, not just right experiences, and compulsive checking: Test of a moderated mediation model on a non-clinical sample. *Comprehensive Psychiatry*, *73*, 111–119. https://doi.org/10.1016/j.comppsych.2016.11.014

Bottesi, G., Tesini, V., Cerea, S., & Ghisi, M. (2018). Are difficulties in emotion regulation and intolerance of uncertainty related to negative affect in borderline personality disorder? *Clinical Psychologist*, *22*(2), 137–147. https://doi.org/10.1111/cp.12163

Bowlby, J. (1988). *A secure base: Parent–child attachment and healthy human development*. New York: Basic Books.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford Press.

Buhr, K., & Dugas, M. J. (2002). The Intolerance of Uncertainty Scale: Psychometric properties of the English version. *Behaviour Research and Therapy*, *40*, 931–945. https://doi.org/10.1016/S0005-7967(01)00092-4

Buhr, K., & Dugas, M. J. (2009). The role of fear of anxiety and intolerance of uncertainty in worry: An experimental manipulation. *Behaviour Research and Therapy*, *47*, 215–223. https://doi.org/10.1016/j.brat.2008.12.004

Cameron, J. J., Finnegan, H., & Morry, M. M. (2012). Orthogonal dreams in an oblique world: A meta-analysis of the association between attachment anxiety and avoidance. *Journal of Research in Personality*, *46*(5), 472–476. https://doi.org/10.1016/j.jrp.2012.05.001

Campbell, L., Simpson, J. A., Boldry, J., & Kashy, D. A. (2005). Perceptions of conflict and support in romantic relationships: The role of attachment anxiety. *Journal of Personality and Social Psychology*, *88*, 510–531. https://doi.org/10.1037/0022-3514.88.3.510

Carleton, R. N. (2012). The intolerance of uncertainty construct in the context of anxiety disorders: Theoretical and practical perspectives. *Experimental Review in Neurotherapeutics*, *12*(8), 937–947. https://doi.org/10.1586/ern.12.82

Carleton, R. N., Norton, M. A. P. J., & Asmundson, G. J. G. (2007). Fearing the unknown: A short version of the Intolerance of Uncertainty Scale. *Journal of Anxiety Disorders*, *21*, 105–117. https://doi.org/10.1016/j.janxdis.2006.03.014

Cassidy, J., Lichtenstein-Phelps, J., Sibrava, N. J., Thomas, C. L., & Borkovec, T. D. (2009). Generalized anxiety disorder: Connections with self-reported attachment. *Behavior Therapy*, *40*, 23–38. https://doi.org/10.1016/j.beth.2007.12.004

Collins, N. L. (1996). Working models of attachment: Implications for explanation,emotion, and behavior. *Journal of Personality and Social Psychology*, *71*, 810–832. https://doi.org/10.1037//0022-3514.71.4.810

Cougle, J. R., Fitch, K. E., Fincham, F. D., Riccardi, C. J., Keough, M. E., & Timpano, K. R. (2012). Excessive reassurance seeking and anxiety pathology: Tests of incremental associations and directionality. *Journal of Anxiety Disorders*, *26*(1), 117–125. https://doi.org/10.1016/j.janxdis.2011.10.001

Davila, J. (2001). Refining the association between excessive reassurance seeking and depressive symptoms: The role of related interpersonal constructs. *Journal of Social and Clinical Psychology*, *20*(4), 538–559. https://psycnet.apa.org/doi/10.1521/jscp.20.4.538.22394

Dugas, M. J., Freeston, M. H., & Ladouceur, R. (1997). Intolerance of uncertainty and problem orientation in worry. *Cognitive Therapy and Research*, *21*, 593–606. https://doi.org/10.1023/A:1021890322153

Dugas, M. J., & Robichaud, M. (2007). *Cognitive-behavioral treatment for generalized anxiety disorder: From science to practice*. New York: Routledge.

Eng, W., Heimberg, R. G., Hart, T. A., Schneier, F. R., & Liebowitz, M. R. (2001). Attachment in individuals with social anxiety disorder: The relationship among adult attachment styles, social anxiety, and depression. *Emotion*, *1*, 365–380. https://doi.org/10.1037//1528-3542.1.4.365

Erhart, R., Mahlendorf, M. D., Reimer, M., & Schäffer, U. (2017). Theorizing and testing bidirectional effects: The relationship between strategy formation and involvement of controllers. *Accounting, Organizations and Society*, *61*, 36–52. https://doi.org/10.1016/j.aos.2017.07.004

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). London, England: Sage.

Fraley, R., & Shaver, P. (2000). Adult romantic attachment: Theoretical developments, emerging controversies and unanswered questions. *Review of General Psychology*, *4*, 132–154. https://doi.org/10.1037//1089-2680.4.2.132

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item-response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, *78*, 350–365. https://doi.org/10.1037//0022-3514.78.2.350

Freeston, M. H., Rhéaume, J., Letarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? *Personality and Individual Differences*, *17*, 791–802. https://doi.org/10.1016/0191-8869(94)90048-5

Gentes, E. L., & Ruscio, A. M. (2011). A meta-analysis of the relation of intolerance of uncertainty to symptoms of generalized anxiety disorder, major depressive disorder, and obsessive–compulsive disorder. *Clinical Psychology Review*, *31*(6), 923–933. https://doi.org/10.1016/j.cpr.2011.05.001

Gosselin, P., Ladouceur, R., Evers, A., Laverdiere, A., Routhier, S., & Tremblay-Picard, M. (2008). Evaluation of intolerance of uncertainty: Development and validation of a new self-report measure. *Journal of Anxiety Disorders*, *22*(8), 1427–1439. https://doi.org/10.1016/j.janxdis.2008.02.005

Graham, J. W. (2003). Adding missing-data-relevant variables to FIML-based structural equation models. *Structural Equation Modeling*, *10*, 80–100. https://doi.org/10.1207/S15328007SEM1001_4

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *44*(2), 227–239. https://doi.org/10.1348/014466505X29657

Joiner, T. E., Metalsky, G. I., Katz, J., & Beach, S. R. H. (1999). Depression and excessive reassurance seeking. *Psychological Inquiry*, *10*, 269–278. https://doi.org/10.1207/S15327965PLI1004_1

Levy, K. N., Meehan, K. B., Weber, M., Reynoso, J., & Clarkin, J. F. (2005). Attachment and borderline personality disorder: Implications for psychotherapy. *Psychopathology*, *38*(2), 64–74. https://doi.org/10.1159/000084813

Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety & Stress Scales* (2nd ed.). Sydney: Psychology Foundation.

Malik, S., Wells, A., & Wittkowski, A. (2015). Emotion regulation as a mediator in the relationship between attachment and depressive symptomatology: A systematic review. *Journal of Affective Disorders*, *172*, 428–444. https://doi.org/10.1016/j.jad.2014.10.007

MacLeod, A. K., Williams, J. M., & Bekerian, D. A. (1991). Worry is reasonable: The role of explanations in pessimism about future personal events. *Journal of Abnormal Psychology*, *100*(4), 478–486. https://doi.org/10.1037/0021-843X.100.4.478

McEvoy, P. M., & Erceg-Hurn, D. M. (2016). The search for universal transdiagnostic and trans-therapy change processes: Evidence for intolerance of uncertainty. *Journal of Anxiety Disorders*, *41*, 96–107. https://doi.org/10.1016/j.janxdis.2016.02.002

McEvoy, P. M., Hyett, M. P., Shihata, S., Price, J. E., & Strachan, L. (2019). The impact of methodological and measurement factors on transdiagnostic associations with intolerance of uncertainty: A meta-analysis. *Clinical Psychology Review*, *73*, 101778. https://doi.org/10.1016/j.cpr.2019.101778

McEvoy, P. M., Watson, H., Watkins, E. R., & Nathan, P. (2013). The relationship between worry, rumination, and comorbidity: Evidence for repetitive negative thinking as a transdiagnostic construct. *Journal of Affective Disorders*, *151*(1), 313–320. https://doi.org/10.1016/j.jad.2013.06.014

Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy*, *28*, 487–495. https://doi.org/10.1016/0005-7967(90)90135-6

Mikulincer, M., & Shaver, P. R. (2012). An attachment perspective on psychopathology. *World Psychiatry*, *11*(1), 11–15. https://doi.org/10.1016/j.wpsyc.2012.01.003

Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation and Emotion*, *27*, 77–102. https://doi.org/10.1023/A:1024515519160

Nielsen, S. K. K., Lønfeldt, N., Wolitzky-Taylor, K. B., Hageman, I., Vangkilde, S., & Daniel, S. I. F. (2017). Adult attachment style and anxiety – The mediating role of emotion regulation. *Journal of Affective Disorders*, *218*, 253–259. https://doi.org/10.1016/j.jad.2017.04.047

Salkovskis, P. M., Clark, D. M., & Gelder, M. G. (1996). Cognition-behaviour links in the persistence of panic. *Behaviour Research and Therapy*, *34*(5–6), 453–458. https://doi.org/10.1016/0005-7967(95)00083-6

Shaver, P. R., & Mikulincer, M. (2014). Adult attachment and emotion regulation. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 237–250). New York: Guilford Press.

Shaver, P. R., Schachner, D. A., & Mikulincer, M. (2005). Attachment style, excessive reassurance seeking, relationship processes, and depression. *Personality and Social Psychology Bulletin*, *31*(3), 343–359. https://doi.org/10.1177/0146167204271709

Simonelli, L. E., Ray, W. J., & Pincus, A. L. (2004). Attachment models and their relationship with anxiety, worry and depression. *Counseling and Clinical Psychology Journal*, *1*, 107–118.

Stuart, S., & Robertson, M. (2012). *Interpersonal psychotherapy: A clincian's guide* (2nd ed.). Florida: CRC Press.

Vrtička, P., & Vuilleumier, P. (2012). Neuroscience of human social interactions and adult attachment style. *Frontiers in Human Neuroscience*, *6*, 1–17. https://doi.org/10.3389/fnhum.2012.00212

Wearden, A., Perryman, K., & Ward, V. (2006). Adult attachment, reassurance seeking and hypochondriacal concerns in college students. *Journal of Health Psychology*, *11*(6), 877–886. https://doi.org/10.1177/1359105306069086

Wei, M., Russell, D. W., Mallinckrodt, B., & Vogel, D. L. (2007). The Experiences in Close Relationship Scale(ECR)-short form: Reliability, validity, and factor structure. *Journal of Personality Assessment*, *88*(2), 187–204. https://doi.org/10.1080/00223890701268041

Wei, M., Vogel, D. L., Ku, T. Y., & Zakalik, R. A. (2005). Adult attachment,affect regulation, negative mood, and interpersonal problems: The mediating roles of emotional reactivity and emotional cutoff. *Journal of Counseling Psychology*, *52*(1), 14–24. https://doi.org/10.1037/0022-0167.52.1.14

Woody, S., & Rachman, S. (1994). Generalized anxiety disorder (GAD) as an unsuccessful search for safety.Clinical. *Psychology Review*, *14*(8), 743–753. http://doi.org/10.1016/0272-7358(94)90040-x

Wright, C. J., Clark, G. I., Rock, A. J., & Coventry, W. L. (2017). Intolerance of uncertainty mediates the relationship between adult attachment and worry. *Personality and Individual Differences*, *112*, 97–102. https://doi.org/10.1016/j.paid.2017.02.039

Zdebik, M. A., Moss, E., & Bureau, J. F. (2018). Childhood attachment and behavioral inhibition: Predicting intolerance of uncertainty in adulthood. *Development and Psychopathology*, *30*, 1225–1238. https://doi.org/10.1017/S0954579417001614

How to cite this article: Clark GI, Rock AJ, Clark LH, Murray-Lyon K. Adult attachment, worry and reassurance seeking: Investigating the role of intolerance of uncertainty. *Clinical Psychologist*. 2020;1–12. https://doi.org/10.1111/cp.12218